



Pacific Flyway Council

Recommendations, Informational Notes,
and Subcommittee Reports

A Product from the Meetings of the:

Pacific Flyway Nongame Technical Committee

and the

Pacific Flyway Study Committee

February 13-17, 2023
Virtual and In-person Meeting

for the

Pacific Flyway Council

March 21, 2023
Virtual and In-Person Meeting

Spring 2023

Preface

The Migratory Bird Treaty Act implemented multiple international treaties addressing migratory bird conservation and established federal authority over migratory birds. The U.S. Fish and Wildlife Service (Service), under the authority of the Secretary of the Interior, collaborates with the Pacific Flyway Council (Council) to develop regulations for migratory birds in the United States Pacific Flyway. Two technical committees advise the Council: the Study Committee (SC) and the Nongame Technical Committee (NTC), collectively referred to as Committees. The Committees are scientific fact-finding bodies whereas the Council is an administrative and policy setting body.

The Service develops migratory game bird hunting regulations annually by establishing frameworks including outside dates, season lengths, bag limits, and hunting areas. The Council makes framework recommendations annually to the Service according to biological status, management objectives, and policy considerations. Members of the Council and the SC meet in late summer/early fall to share data, review the status of populations and actions outlined in management plans, and propose annual hunting frameworks. They meet again in late winter to develop cooperative management programs, and coordinate research and management for the protection and conservation of migratory game birds. The Council typically makes season framework recommendations to the Service in October.

The NTC also meets twice each year with the Council and SC. The NTC provides a consolidated forum for the Service and state fish and wildlife agencies to discuss, plan, and coordinate actions to address management, regulations, monitoring, and other issues related to nongame migratory birds. The NTC both responds to emerging issues originating with the Council or the Service and works proactively with conservation partners and with other states to identify and prioritize flyway-relevant issues that require attention.

Recommendations, informational notes, and subcommittee reports are prepared by the Committees and forwarded to the Council for consideration or adoption. The Council may develop or modify Committee recommendations as necessary. The Council has a policy of considering management plans for adoption only after having received the management plan for review at least 45 days in advance. The Service assumes the Council support for continuation of the previous year's frameworks if no recommendation is received.

Each recommendation and informational note identifies a contact person. The contact person drafts the recommendation or informational note (or facilitates its development) to represent the position of the Committee or the Council. The contact person is usually knowledgeable on the specific subject matter and serves as a contact for more information. If the recommendation or informational note comes from a subcommittee, that subcommittee is identified on the recommendation or note. The Chair of each subcommittee ensures the preparation of the subcommittee's report and is identified on that report.

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Members, Officers, and Representatives Pacific Flyway Council

Members

Rick Merizon, Alaska Department of Fish and Game
Josh Avey, Arizona Game and Fish Department
Scott Gardner, California Department of Fish and Wildlife
Brian Dreher, Colorado Parks and Wildlife
John Rachael, Idaho Department of Fish and Game
Ken McDonald, Montana Fish, Wildlife, and Parks
Mike Scott, Nevada Department of Wildlife
Bernadette Graham Hudson, Oregon Department of Fish and Wildlife
Blair Stringham, Utah Division of Wildlife Resources
Eric Gardner, Washington Department of Fish and Wildlife
Doug Brimeyer, Wyoming Game and Fish Department

Officers

Chair, Brian Dreher, Colorado
Vice-chair, Doug Brimeyer, Wyoming
Secretary, Jason Schamber, Alaska
Treasurer, Jeff Knetter, Idaho

Consultants to U.S. Fish and Wildlife Service Migratory Bird Regulation Committee

Eric Gardner, Washington (Sr.)
Mike Scott, Nevada (Jr.)

Representative on the National Flyway Council

Mike Scott, Nevada

Representative on the North American Wetlands Conservation Council

Vacant

Representative on the North American Waterfowl Management Plan Committee

Eric Gardner, Washington

Representative on the Sea Duck Joint Venture Management Board

Rick Merizon, Alaska (*to be confirmed at the March 2023 Council meeting)

Representative on the Arctic Goose Joint Venture Management Board

Rick Merizon, Alaska (*to be confirmed at the March 2023 Council meeting)

Pacific Flyway Study Committee

Members

Jason Schamber, Alaska
Larisa Harding, Arizona
Melanie Weaver, California
Adam Behney, Colorado
Jeff Knetter, Idaho
Claire Gower, Montana
Russell Woolstenhulme, Nevada
Brandon Reishus, Oregon
Heather Talley, Utah
Kyle Spragens, Washington
Eric Newkirk, Wyoming

Officers

Chair, Adam Behney, Colorado
Vice-chair, Eric Newkirk, Wyoming
Treasurer, Jeff Knetter, Idaho

Subcommittees

Aleutian Cackling Goose
Banding
Cackling/Minima Cackling Goose
Dusky Canada Goose
Emperor Goose
Interior Band-Tailed Pigeon
Taverner's Cackling Goose and Lesser Canada Goose
Lower Colorado River Valley Sandhill Crane
Midcontinent Sandhill Crane
Mourning and White-Winged Dove
Pacific Brant
Pacific Coast and Central Valley Sandhill Cranes
Pacific Coast Band-Tailed Pigeon
Pacific Trumpeter Swan
Rocky Mountain Sandhill Crane
Rocky Mountain Trumpeter Swan
Western and Eastern Tundra Swans
Western Canada Goose
White Geese
White-Fronted Goose

Pacific Flyway Nongame Technical Committee

Members

Tracey Gotthardt, Alaska
Edwin Juarez, Arizona
Neil Clipperton, California
Brian Holmes, Colorado
Rex Sallabanks, Idaho
Allison Begley, Montana
Jess Brooks, Nevada
Emily VanWyk, Oregon
Russell Norvell, Utah
Joseph Buchanan, Washington
Grant Frost, Wyoming

Officers

Chair, Brian Holmes, Colorado
Vice-chair, Grant Frost, Wyoming
Treasurer, Jeff Knetter, Idaho

Subcommittees

Raptors
Double-crested Cormorant
Pelican

Representatives to the Pacific Flyway Council and Technical Committees

U.S. Fish and Wildlife Service

Todd Sanders, DMBM, Grand Junction

Steve Olson, DMBM, Vancouver

Joe Sands, Columbia-Pacific Region, Portland

Michelle McDowell, Columbia-Pacific Region, Portland

Dan Collins, Lower Colorado Basin Region, Albuquerque

Corrie Borgman, Lower Colorado Basin Region, Albuquerque

David Olson, Missouri and Upper Colorado River Basin Region, Denver

David Safine, Alaska Region, Anchorage

Rick Lanctot, Alaska Region, Anchorage

Thomas Leeman, California-Great Basin Region, Sacramento

Canadian Wildlife Service

Megan Ross, British Columbia

Garnet Raven, Alberta

Alberta Environment and Sustainable Resource Development

Jason Caswell, Alberta

Alaska Migratory Bird Co-Management Council

Jason Schamber

RECOMMENDATIONS

PACIFIC FLYWAY COUNCIL

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Recommendation 1 — Allocation of Captive-reared Trumpeter Swans to Approved Release Sites and Approval of New Release Site

Recommendation

The Pacific Flyway Council (Council) recommends allocation of captive-reared trumpeter swans to approved restoration sites in this priority order:

1. Summer Lake, Oregon
2. Middle Madison, Montana
3. Yellowstone National Park
4. Teton Basin, Idaho
5. Mud Lake, Idaho
6. Big Sandy, Wyoming*

(* currently seeking Council approval to be an approved release site)

Additionally, Council recommends state leads meet by conference call in early July to determine the specific number of swans to allocate to each release site. The specific number of swans available for allocation to each restoration site will depend upon hatching success during spring 2023 (not known until early July) and genetic origin of swans. In 2023, it is anticipated swans will be available from the Wyoming Wetlands Society (WWS). All swans from the WWS are of Rocky Mountain Population (RMP) origin, except for one pair of mixed RMP/Pacific Coast Population (PCP) origins. As stated in the Pacific Flyway Management Plan for the Rocky Mountain Population of Trumpeter Swans (Plan), these mixed origin birds can only go to Oregon. Other potential sources of PCP cygnets for Oregon's 2023 allocation may come from The Trumpeter Swan Society's central Oregon flock. Yearlings held over at Pocatello Zoo, Idaho, which have been behaviorally conditioned to live in the wild, may also be available. These are likely PCP or mixed genetics and would only be available to Oregon.

Council also recommends that Big Sandy, Wyoming, be added to the list of approved trumpeter swan restoration sites.

Justification

As described in the allocation process document (Appendix E) in the Plan, the Study Committee will make a recommendation to Council regarding an equitable allocation of trumpeter swans for release at approved restoration sites.

Only swans of RMP origin may be released in the tri-state region; however, swans of other origin, PCP or mixed PCP/RMP, may be released outside the tri-state region. As described in the Plan, allocation of captive-reared swans to areas outside the tri-state region will be constrained to no more than 20% of the total number of swans available for release in the tri-state region in any year. Only RMP origin birds can be released in the tri-state region; therefore, not more than 20% of RMP origin birds available for release can be allocated to Summer Lake, currently the only restoration site outside the tri-state region.

The addition of Big Sandy as an approved release site is consistent with objectives of the Plan. Project leads in Wyoming have completed a habitat assessment, provided objectives for establishment of nesting-pairs, and a description of the monitoring program to document project progress and evaluate project success. The assessment demonstrates the quality and quantity of habitat sufficient to increase the probability of project success. The proposed release site has also been vetted through the Greater Yellowstone Trumpeter Swan Working Group.

If Council approves Big Sandy as a new release site, and if allocation allows, the Big Sandy project would also be added to the list of sites to receive allocation this year.

Adoption

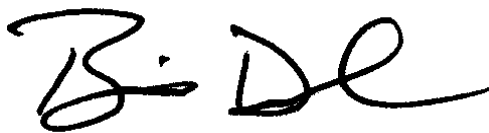
Pacific Flyway Study Committee
February 17, 2023

Contact: Claire Gower



Adam Behney, Chair

Pacific Flyway Council
March 21, 2023



Brian Dreher, Chair

PACIFIC FLYWAY COUNCIL

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Recommendation 2 — Revised Management Plan for Midcontinent Greater White-fronted Geese

Recommendation

The Pacific Flyway Council (Council) approves the 2023 revision of the Management Plan for Midcontinent Greater White-fronted Geese (Plan).

Justification

The midcontinent greater white-fronted goose population (MCP) breeds, migrates, and winters within the jurisdictions of the Pacific, Central, and Mississippi flyways; therefore, the revision process included all three flyways, but was led by the Central Flyway. The draft Plan was distributed for Council review following the Study Committee business meeting in mid-February. Council is engaged with this Plan on behalf of Alaska, the only participatory state in the Pacific Flyway that harvests MCP geese.

The purpose of this Plan revision was to update the management plan for the MCP with modified management protocols based on new information available since the 2015 revision, including adjustments to the monitoring methodology and harvest strategy.

Specifically, principal changes in this revision include:

1. Population monitoring

Previous management plans for this population determined population status based on counts from surveys of fall staging birds conducted in Saskatchewan and Alberta, Canada. However, this survey was discontinued in 2020 due to methodological concerns, including lack of a sampling frame and unknown detection probability. This Plan now uses Lincoln estimates of adult abundance to determine population status and trends. Lincoln estimates are derived from total harvest estimates and hunter-shot recoveries of banded birds; thus, this approach will require banding a representative sample of adults on the breeding grounds in northern Canada and Alaska; as well as deriving age-specific harvest estimates from national surveys in Canada and the United States.

2. Harvest Strategy

Like the 2015 plan, the current harvest strategy includes use of a minimum population threshold and harvest rate to inform management decisions. The 2015 strategy used an interim threshold harvest rate of 6%, which was based on previous harvest rates of the MCP and harvest rate objectives/harvest potential analyses of other goose populations. Recently, a comprehensive harvest potential analysis for the MCP estimated maximum sustained yield harvest rates of 6.8 – 8.3%. Thus, a harvest rate threshold of 7.5% was selected to reflect the midpoint of the range in maximum sustainable harvest rates.

The revised harvest strategy will use a minimum threshold of 1.2 million adult geese, calculated as the most recent three-year average of Lincoln estimates of adults. This is a shift from the previous harvest strategy which used a population threshold of 600,000 based on a running 3-year mean of counts from surveys of fall staging birds. The threshold of 1.2 million continues to reflect the lowest abundance ever observed, based on a 3-year running mean Lincoln estimate of adult population size. For regulatory restrictions, 85% of the 3-year average adult Lincoln estimate distribution must be below the abundance threshold (1.2 million) and above the harvest rate threshold (7.5%). Both conditions must occur. If only one condition is triggered, more restrictive regulatory changes could be considered by each Flyway but is not predetermined.

Adoption

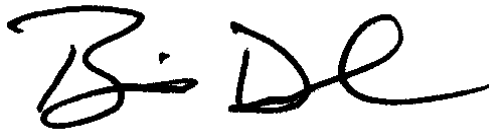
Contact: Jason Schamber

Pacific Flyway Study Committee
February 17, 2023



Adam Behney, Chair

Pacific Flyway Council
March 21, 2023



Brian Dreher, Chair

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Recommendation 3 — Interim Population Objectives for Western Arctic and Wrangel Island Populations of Lesser Snow Geese

Recommendation

The Pacific Flyway Council (Council) adopts the interim population objectives for Western Arctic and Wrangel Island populations of lesser snow geese to inform harvest management decisions until alternative monitoring programs and population objectives have been identified and implemented.

Justification

This addendum provides interim population objectives for Western Arctic and Wrangel Island populations of lesser snow geese. Interim objectives are necessary because existing population objectives in Pacific Flyway Council management plans for these populations are based on monitoring programs that no longer exist. Both management plans recommend spring or breeding area surveys to assess population status, but these surveys have either been discontinued or are no longer feasible. However, annual counts of snow geese during winter in parts of California, Oregon, and Washington are available. The interim population objectives rely on these operational winter surveys, and will be used to inform harvest management decisions until alternative monitoring programs and population objectives have been identified and implemented. In August 2022, the Pacific Flyway White Goose Subcommittee endorsed a study that will evaluate all available monitoring data for both populations to determine the most effective approach for monitoring these populations into the future.

This interim strategy will be re-evaluated by the White Goose Subcommittee as additional information and analyses are made available to the group.

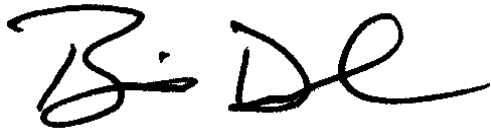
Adoption

Pacific Flyway Study Committee
February 17, 2023

Contact: Kyle A. Spragens

Adam Behney, Chair

Pacific Flyway Council
March 21, 2023

A handwritten signature in black ink, appearing to read "B. Dreher", written over a horizontal line.

Brian Dreher, Chair

Recommendation 3 (Addendum)

February 17, 2023

INTERIM POPULATION OBJECTIVES FOR WESTERN ARCTIC AND WRANGEL ISLAND POPULATIONS OF LESSER SNOW GEESE

This addendum provides interim population objectives for Western Arctic and Wrangel Island populations of lesser snow geese. Interim objectives are necessary because existing population objectives in Pacific Flyway Council management plans for these populations are based on monitoring programs that no longer exist. Both management plans recommend spring or breeding area surveys to assess population status, but these surveys have either been discontinued or are no longer feasible. However, annual counts of snow geese during winter in parts of California, Oregon, and Washington are available. The interim population objectives rely on these operational winter surveys. The objectives will be used to inform harvest management decisions until alternative monitoring programs and population objectives have been identified and implemented. In August 2022, the Pacific Flyway White Goose Subcommittee endorsed a study that will evaluate all available monitoring data for both populations to determine the most effective approach for monitoring these populations into the future.

For the Western Arctic Lesser Snow Goose Population

If the winter index (3 year-average) in the California Central Valley exceeds 300,000 total snow geese, then maintain liberal season and bag-limit regulations.

For the Wrangel Island Lesser Snow Goose Population

If the winter index (3-year average) in Fraser-Skagit region exceeds 70,000 adult snow geese, as determined by age-ratio surveys, then maintain liberal season (past January 31) and bag-limit regulations.

This interim strategy will be re-evaluated by the White Goose Subcommittee as additional information and analyses are made available to the group.

Table 1. Summary of available Western Arctic population (WAP) breeding photo inventory and California winter survey time series, accounting for and removing Ross' geese from the California winter estimate.

Year	WAP photo inventory (summer)	White Geese (CA winter)	ROGO proportion ¹	Snow Goose	correction factor ²
1976	181,975				
1981	225,745	711,300	0.377	443,069	1.96
1987	205,072	477,600	0.404	284,602	1.39
1995	486,019	464,400	0.407	275,621	0.57
2002	579,753	523,700	0.377	326,213	0.56
2007	310,775	978,622	0.338	647,750	2.08
2009	427,528	827,055	0.318	563,803	1.32
2013	419,800	1,275,890	0.272	929,486	2.21
2022	discontinued	1,093,828	0.131	950,427	--
average					1.44
original objective					200,000
corrected					288,499
1 = Ross' goose composition estimated for years with WAP photo inventory based upon fitted relationship across time series.					
2 = California winter snow goose divided by WAP photo inventory.					

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Recommendation 4 — Study Committee Representation on the Dove Task Force Recommendation

The Pacific Flyway Council (Council) approves the following changes to Study Committee Representation to the Dove Task Force.

- Dove Task Force – Larisa Harding (Arizona) will replace Johnathan O'Dell (Arizona)

Justification

The Study Committee has assigned representation to the Dove Task Force based on interest and expertise. Rotation of these duties is necessary to balance workload among members and satisfy requests for Pacific Flyway representation. The above assignment for Pacific Flyway representation is necessary due to personnel changes. Travel expenses for representation to the Dove Task Force are covered by Council funds.

Adoption

Pacific Flyway Study Committee
February 17, 2023

Contact: Adam Behney

Adam Behney, Chair

Pacific Flyway Council
March 21, 2023

Brian Dreher, Chair

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Recommendation 5 — Letters of Recognition for Johnathan O'Dell and Will Schultz

Recommendation

The Pacific Flyway Council (Council) approves sending the attached letters for former Arizona migratory game bird biologist Johnathan O'Dell who served as a member of Study Committee from 2016–2022 and for Wyoming habitat protection program supervisor Will Schultz, who served as a member of Study Committee from 2020-2022.

Justification

See attached letters.

Adoption

Pacific Flyway Council
February 17, 2023

Contact: Adam Behney

Adam Behney, Chair

Pacific Flyway Council
March 21, 2023

Brian Dreher, Chair

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March 21, 2023

Johnathan O'Dell
2371 East Bellerive Place
Chandler, AZ 85249

Dear Johnathan,

On behalf of the Pacific Flyway Council (Council), I recognize and thank you for your 7 years (2016-2022) of dedication and contributions to the management of migratory game bird resources in the Pacific Flyway.

During your time on the Pacific Flyway Study Committee (SC), you provided technical support to the Arizona Council member. You served as the representative to the National Dove Task Force providing valuable input and feedback. Your efforts and input on that committee to help in the process of building a new mourning dove integrated population model was significant in the continued management of that species.

Council recognizes and appreciates your contributions during your tenure as SC Chair, Vice Chair, technical support to SRC consultants, and Chair of numerous SC sub-committees. You participated in countless hours of discussion, planning, management plan writing and preparing regulatory recommendations to further migratory bird conservation in the Pacific Flyway.

You are respected and admired by your peers for your work and dedication. Your insight and perspective led to deeper discussions and your good nature and sense of humor always brought smiles to your Pacific Flyway comrades.

We wish you well in your new endeavors and in all that lies ahead. Thank you again for your service to the Pacific Flyway Study Committee.

Sincerely,

Brian Dreher
Chair, Pacific Flyway Council

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March 21, 2023

Will Schultz
Wyoming Game and Fish Department
5400 Bishop Blvd.
Cheyenne, Wyoming 82006

Dear Will,

The Pacific Flyway Council (Council) would like to recognize and thank you for your contributions to the Pacific Flyway Study Committee (Committee), and for the conservation and management of Pacific Flyway migratory game bird resources. During your three years on the Committee, your hard work and thoughtful insights have been greatly appreciated and your comradery has been cherished.


During your time on the Committee, you served on, and chaired several species subcommittees, addressing management issues and developing hunting season recommendations for Western tundra swans, Rocky Mountain Population (RMP) sandhill cranes, and Western Canada geese. You participated in countless hours of discussion, planning, and preparing regulatory recommendations. You were also the first to volunteer for extra preparation, and your help was invaluable during editing and finalizing packet material.

During your tenure, you were a valuable member of the RMP trumpeter swan subcommittee and attended the Greater Yellowstone Trumpeter Swan Working Group. In collaboration with the Wyoming Wetlands Society, you helped champion and develop opportunities for expanding trumpeter swan reintroduction within the Pacific Flyway portion of Wyoming. Your efforts have improved migratory game bird management for the citizens of Wyoming by assisting Wyoming's migratory gamebird biologist with sandhill crane capture operations for GSM marking and providing support for continuing to expand Wyoming's sandhill crane fall surveys based on knowledge of crane habitat use in the south-central part of Wyoming.

You are respected and looked up to by your peers for your work and dedication, and we sincerely appreciated your friendship, your humble and cheerful personality, but more notably your genuine and helpful character was immensely appreciated by your colleagues.

We hope you have fond memories of the productive meetings, and the recognition of the positive and influential interactions with the Committee. Council wishes you well in your promotion with the Wyoming Game and Fish Department and in all that lies ahead. Thank you again for your service to the Pacific Flyway Study Committee.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Dreher". The signature is fluid and cursive, with the first name "Brian" and last name "Dreher" clearly distinguishable.

Brian Dreher
Chair, Pacific Flyway Council

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Recommendation 6 — Letters of Recognition for Travis Booms and Colleen Moulton

Recommendation

The Pacific Flyway Council (Council) approves sending the attached letters to Travis Booms (Alaska Department of Fish and Game) and Colleen Moulton (Idaho Department of Game and Fish) in recognition of their service to the Pacific Flyway Nongame Technical Committee.

Justification

See attached letter.

Adoption

Pacific Flyway Nongame Technical Committee
February 17, 2023

Contact: Brian Holmes

Brian Holmes, Chair

Pacific Flyway Council
March 21, 2023

Brian Dreher, Chair

PACIFIC FLYWAY COUNCIL

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March 21, 2023

Travis Booms
Alaska Department of Fish and Game
1300 College Rd.
Fairbanks, AK 99701

Dear Travis,

On behalf of the Pacific Flyway Council (Council) and the Nongame Technical Committee (NTC), upon which you served, I would like to take this opportunity to recognize your contributions to conservation and management of migratory birds in the Pacific Flyway. You have been a valued member of the NTC for 10 years, and your contributions have been substantial. In your role as the State of Alaska's representative, you provided technical expertise, leadership, and coordinated and implemented conservation and management efforts focused on shared migratory bird resources of the Pacific Flyway across western North America.

Your strong background in raptor biology, conservation, and analysis has been instrumental in your service on the NTC, including serving on the Raptor Subcommittee. You helped frame the NTC's position on important golden eagle take, permitting, and research topics, peregrine falcon take reporting, general falconry coordination, and many other raptor issues. Your leadership was essential in development of the first Pacific Flyway NTC C-SWG grant, which involved short-eared owls, and which became a funding model for pursuing Flyway priorities.

During 2021 and 2022 you served as NTC Co-Chair and Chair, respectively. I thank you for your leadership in these roles and for your professionalism to lead the NTC through countless hours of discussion, planning, and preparing regulatory recommendations to further the cause of migratory bird conservation in the Pacific Flyway. The Council, Study Committee (SC), and NTC would especially like to thank you for your role in organizing the 2022 meeting in Juneau, Alaska, which was a resounding success and a much-needed opportunity to meet in-person after two years of Covid-induced seclusion. Travis, you were recognized by NTC members as a strong leader and critical thinker. In addition, your ability to calmly facilitate and problem solve was much appreciated. In your interactions within the NTC you always displayed a willingness to understand varying perspectives and seek out the common theme to crystalize a course of action that might have been obscured in debate.

I would also like to acknowledge the commitment and leadership you have provided to promote diversity and equity issues with the NTC, SC, and Council. Investment in advancing inclusion and increasing representation is critical to our overall success and credibility as leaders in avian

conservation and management. This topic was not an easy one to address, but your efforts to get the conversation started are greatly valued.

On behalf of Council and the technical committees, I thank you again for your contributions. Your efforts were appreciated, and we are thankful for your long-standing involvement with the NTC. Your absence from the NTC will be palpable. I offer you my best wishes on your upcoming endeavors.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Dreher". The signature is fluid and cursive, with a large "B" and a stylized "Dreher".

Brian Dreher
Chair, Pacific Flyway Council

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March 21, 2023

Colleen Moulton
U.S. Fish and Wildlife Service
R2 Migratory Bird Program
P.O. Box 709
Albuquerque, NM 87103

Dear Colleen,

On behalf of the Pacific Flyway Council (Council) and the Nongame Technical Committee (NTC) upon which you served, I would like to take this opportunity to recognize your contributions to the conservation and management of migratory birds in the Pacific Flyway. For nine years, you were a valued member of the NTC.

You have been one of the most active, consistent, and dedicated NTC members during your tenure on the committee. There were few NTC activities over the last nine years that you were not involved in, and you often led the efforts!

Before you joined the NTC in 2014, the committee was wrestling with double-crested cormorant management and drafting a management framework and a monitoring strategy for the species. You contributed many long hours moving those documents forward and applied a similar approach to develop a management plan and monitoring strategy for the American white pelican. The development of these important conservation documents and the endorsement by all 11 Pacific Flyway states was an achievement that hinted at your future impact as a representative on the NTC. You took on the role of liaison to the flyway's bird conservation partners, including the Intermountain West Joint Venture and the Partners in Flight Western Working Group. These connections were vital to the Pacific Flyway in achieving the recommendations from the National Flyway Council and U.S. Fish and Wildlife Service to expand the role of the nongame technical committees. You played a large role in each of the two flyway Partners meetings, including leading the NTC through the prioritization process that led to the Pacific Flyway's first set of Council-endorsed conservation initiatives, and planning for and coordinating the second Partners meeting five years later. Together, these meetings established priority conservation initiatives that have and will continue directing work of the NTC over a 10-year period. You were active in the NTC's colonial waterbird endeavors and participated in the committee's cormorant and pelican subcommittees.

You actively served as the flyway's representative on the Avian Knowledge Network's steering committee and guided the development of a colonial waterbird node that has served as the repository for the flyway's cormorant and pelican data—this database has been adopted for use

by other flyways. You played an integral role in implementing the flyway's Western Asio flammeus Landscape Study (WAfLS), which employed citizen-science to gather information on the population status of the short-eared owl across the western United States. The success of the NTC depends on the contributions of its members, and you always seemed to find time to make things happen.

Clearly, the NTC would not have achieved nearly as much over the last decade without your engagement and your commitment to collaborative work among states and our conservation partners. You also were an understated leader that provided focus to the committee when tackling difficult issues—as in any group, conversations can bounce around as each member shares various perspectives, and you had a way of providing a steadying influence that brought the group to the core of an issue and kept the committee on track. You spent many hours preparing or editing our products and made sure we always stayed organized. You have always been an extremely enjoyable person to work with, and we will miss you at the table.

On behalf of Council and the technical committees, I thank you again for your contributions. Your efforts were appreciated and your friendship will be missed. Congratulations on your new position with the U.S. Fish and Wildlife Service. I offer you my best wishes on your upcoming endeavors.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Dreher". The signature is fluid and cursive, with a large "B" and "D" and a smaller "reher" following.

Brian Dreher, Chair
Pacific Flyway Council

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Recommendation 7 — Letter of Recognition to Patricia Schwalenberg

Recommendation

The Pacific Flyway Council (Council) approves sending the attached letter to former Executive Director of the Alaska Migratory Bird Co-Management Council, Patricia Schwalenberg, who served as the ex officio member for the Council and technical committees.

Justification

See attached letter.

Adoption

Pacific Flyway Study Committee
February 17, 2023

Contact: Jason Schamber

Adam Behney, Chair

Pacific Flyway Nongame Technical Committee
February 17, 2023

Brian Holmes, Chair

Pacific Flyway Council
March 21, 2023

Brian Dreher, Chair

PACIFIC FLYWAY COUNCIL

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March 21, 2023

Patricia Schwalenberg
6450 Andover Circle
Anchorage, Alaska 99516

Dear Patricia,

On behalf of the Pacific Flyway Council (Council), representing wildlife agencies of twelve western states, I recognize and thank you for your more than 20 years of dedication and contributions to the co-management of migratory birds. Your long-standing career with the Alaska Migratory Bird Co-Management Council (AMBCC) reflects your commitment to migratory bird conservation, and to ensuring the traditional harvest practices of Alaska Native peoples are understood, respected, and upheld for future generations.

The AMBCC partnership with the Council and technical committees is a model of what can be accomplished through cooperative management of migratory bird resources. You worked tirelessly as an advocate for inclusion of co-management in the regulatory process and helped improve our understanding of the importance of migratory birds to the indigenous communities in Alaska. We greatly appreciated your efforts over the years, including last fall at the Juneau meeting, to increase our awareness of Alaska Native cultural issues and perspectives. Your contributions to foster effective partnerships and co-management programs are remarkable, and you have been an absolute pleasure to work with. Please know that you are highly respected by your colleagues within the Pacific Flyway.

You helped strengthen our partnership by working to preserve subsistence traditions in Alaska. On behalf of Council and the technical committees, I would like to take this opportunity to acknowledge you and your contributions to the conservation and co-management of migratory birds in the Pacific Flyway. I offer you my best wishes with upcoming endeavors and hope that you will remember with fondness the many relationships that you formed in the Pacific Flyway.

Sincerely,

Brian Dreher
Chair, Pacific Flyway Council

INFORMATIONAL NOTES

PACIFIC FLYWAY COUNCIL

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Informational Note 1 — Report on the Status of Southern Wings Projects Funded by the Pacific Flyway Council in 2022

In March 2022, through voluntary special assessments totaling \$26,800.00, the Pacific Flyway Council (Council) funded three Southern Wings projects representing flyway priorities, plus a fourth project at the request of a state providing a voluntary assessment. In July 2019, Council asked for status reports on projects by Council. The following is a summary of the status reports of the four projects funded by Council in 2022. Full status reports are available upon request.

Project 1. The Pacific Flyway Shorebird Survey: Identifying Threats and Conservation Hotspots in Northwest Mexico

Northwest Mexico (Baja California, Baja California Sur, Sonora, Sinaloa, Nayarit)

The Pacific Coast of the Western Hemisphere supports entire populations of neotropical migratory shorebird species during the non-breeding season. A network of coastal and interior wetlands stretching from Alaska to Chile that hosts significant aggregations of shorebirds is critical for their survival. These wetlands include 12 Western Hemisphere Shorebird Reserve Network sites in northwest Mexico. The Pacific Flyway Shorebird Survey (PFSS) and the Migratory Shorebird Project (MSP) work to fill gaps in Pacific Flyway species population status and trends, assess threats, and identify priority sites for conservation. Mexico is particularly important because globally significant populations of shorebird species spend the winter at numerous sites along the Pacific Coast of that country. Primary species recorded during the annual winter surveys in Mexico include: western sandpiper, dunlin, marbled godwit, willet, black-bellied plover, sanderling, greater yellowlegs, dowitchers, snowy plover, black-necked stilt, red knot, and American avocet. The main conservation concerns for shorebirds in the region are human disturbance and habitat loss or degradation.

Starting in 2013 and continuing through 2023, the MSP aims to complete annual non-breeding bird surveys at 21 sites across Mexico. These surveys collect data on the number of birds (shorebirds, waterbirds, and waterfowl), and assess human disturbance, habitat condition, and raptor presence. The project will also develop and implement a sampling design to improve monitoring for snowy plover, red knot, willet, and sanderling on sandy beaches and better understand human impacts centered on beaches. Bird survey data will be combined with habitat maps to identify priority overwintering sites for focal species identified in Pacific Flyway State Wildlife Action plans. Terra Peninsular, a conservation NGO, is developing shorebird-friendly management and conservation strategies for important areas. Terra Peninsular is working to establish private preserves within the Bahia San Quintin to conserve key wintering habitat for Pacific brant. Surveys will also inform communication and outreach activities with local communities to raise environmental awareness on shorebird conservation.

Status Report: Conducted midwinter surveys of Pacific brant in all major wintering sites in northwest Mexico (13 sites) and midwinter shorebird and waterfowl surveys at 21 sites. Also conducted breeding waterbird surveys in southern Sonora and documented 12 species. Work began on banding and monitoring breeding American oystercatchers in Tobari Bay, one of the most important breeding sites for the species in Northwest Mexico. Analyzed survey data and published several scientific articles with management implications. Articles focused on shorebird population trends (marbled godwit, willet, and long-billed curlew) and human disturbance on nonbreeding shorebirds. Habitat protection activities included a) establishing temporary barriers around nesting grounds of snowy plovers, American oystercatchers and California least terns, b) conducting dune restoration, trail maintenance and trash removal in protected areas, and c) conservation planning focusing on waste management, sustainable fisheries, and responsible ecotourism. Also collaborated with a local hunting organization in San Quintin Bay to enhance Pacific brant habitat and reduce illegal hunting and human disturbance.

Southern Wings Partners: Pacific Flyway Council (\$7,000 allocated in 2022), Arizona, California, Terra Peninsular, Centro de Investigación Científica y de Educación Superior de Ensenada (CICESE), Centro de Investigación en Alimentación y Desarrollo, A.C. (CIAD Guaymas, Sonora), Point Blue Conservation Science, Universidad Nacional Autónoma de México (UNAM), Centro de Investigaciones Biológicas del Noroeste (CIBNOR), Universidad Autónoma de Baja California Sur (UABCS), Grupo Aves del Noroeste De México (GANO) U.S. Forest Service International Program (USFSIP).

Project 2. Restoration of Wetland Hydrology in the Marismas Nacionales of Nayarit, Mexico to benefit migratory waterfowl and shorebirds
Northwest Mexico (Nayarit)

Marismas Nacionales in Nayarit, Mexico is a complex of wetlands that form a mixture of marine waters and 11 rivers, creating a varied mosaic of features such as meanders, river deltas, marshes, freshwater lagoons, estuaries, coastal lagoons, intertidal wetlands and coastal dunes. It supports the largest mangrove area on the Pacific coast. Marismas Nacionales is one of the most important energy resupply sites for waterfowl on the Mexican portion of the Pacific Flyway, providing high quality foraging and resting sites for 15 migratory species. The area is notable for its concentration of: northern shoveler (130,000), green-winged teal (25,000), northern pintail (12,000), and other waterfowl. It also provides habitat for more than 427,000 wintering shorebirds of 28 species, including American avocet (137,000, which constitutes about 20% of its total population), and western sandpiper (145,000).

These networks of wetlands face numerous threats, including retention and excessive use of water for agriculture and livestock, establishment of shrimp farms, disruption of natural hydrological flows, and invasive vegetation. All these threats have resulted in drastic mangrove mortality, higher lagoon salinity and reduced habitat for wetland dependent bird species. Restoring the habitat depends, to a great extent, on maintenance of fresh water flows from rivers, streams and springs and on a functional network of natural channels within the mangrove system. This project focuses on restoring hydrological flows for the recovery and conservation of mangrove ecosystems in several tidal and sub-tidal basins within Marismas Nacionales. Actions include rehabilitating approximately 8 miles of the Viejo River, part of the Chugüin-Chuiga tidal sub-basin. Restoration measures include cleaning and dredging (e.g., removal of dead

mangroves) natural channels and the Rio Viejo, and reestablishment of mangroves through the collection and dispersal of seeds. Habitat enhancement work will proceed through the establishment and management of Wildlife Conservation Management Units (a formal habitat and wildlife management framework) in collaboration with private landowners, ejidos and land managers.

Status Report: Trained 100 individuals and organized community work brigades to conduct wetland restoration actions, including cleaning and removal of sediment and dead wood in 8.7 miles of the Rio Viejo channel. The brigades also collected and conducted assisted-dispersal of 70,000 mangrove seeds (black and white mangroves) to promote wetland restoration. Also worked with landowners to strengthen conservation planning and management of three Wildlife Conservation Management Units (Antonio R. Laureles 10,255 acres, Francisco Villa 23,288 acres and Pericos 9,111 acres) by providing technical support for different management activities and monitoring of waterfowl and other wetland-dependent species. Part of the ongoing restoration work also led to the establishment of a new Wildlife Conservation Management Unit (3,707 acres) in Ejido La Libertad, which involved drafting a management plan for the unit.

Biological surveys for birds, fish, mangroves, and water quality were conducted to track restoration progress over time. Sixty-six bird species (including 35 migratory) were documented across six monthly surveys conducted in the Chugüin-Chuiga tidal sub-basin. High counts of species noted included northern pintail (887), green-winged teal (3,423), western sandpiper (9,300), least sandpiper (778), semipalmated plover (929), American avocet (1,089), northern shoveler (3,015), and blue-winged teal (2,400).

Southern Wings Partners: Pacific Flyway Council (\$10,000 allocated in 2022) ejidos, farmers and ranchers, fisheries cooperatives, Marismas Nacionales Biosphere Reserve, Comisión Nacional de Áreas Naturales Protegidas (CONANP), Comisión Nacional Forestal (CONAFOR), Municipality of Tecuala and Organización Vida Silvestre A.C (OVIS), US Fish and Wildlife Service.

Project 3. Conservation of Neotropical migratory birds in the dry tropical forests of El Salvador: Assessing and addressing threats to overwintering habitat and bird populations El Salvador

Numerous migratory birds from throughout the Pacific Flyway use Central America's Pacific coast during migration and overwintering periods. Most of this geography was once dominated by seasonally dry tropical forests. However, large-scale conversion to agriculture and pasture has made the dry tropical forest one of the world's most endangered ecosystems, with less than 2% of the original forest remaining intact. Only 5% of remaining dry forest in Mexico and Central America receive some degree of protection. Primary threats to dry tropical forest in El Salvador include habitat conversion from forest to intensive agriculture, and degradation through timber and firewood extraction and wildfires. Approximately 364 bird species have been recorded in the dry tropical forests of El Salvador, including 38 species that are considered Species of Greatest Conservation Need (SGCN) from across 12 western states. Some SGCN species using these dry tropical forests include willow flycatcher (potentially the southwestern subspecies), yellow-billed cuckoo, Mississippi kite, peregrine falcon, Swainson's hawk, brown-crested flycatcher, Macgillivray's warbler, summer tanager, and Bell's vireo, among others.

The project aims to protect overwintering birds and their dry tropical forest habitats in the eastern region of El Salvador. The eastern region has high conservation potential for birds due to its relatively low human population density and high cover of tropical forest. The project will use a three-pronged strategy: 1) restore and protect dry tropical forest habitat, 2) conduct targeted monitoring and research of species of special concern, and 3) build capacity amongst local people, private sector partners, and governments for improved habitat management and awareness of migratory birds.

Status Report: Expanded the team of community rangers from two to ten who worked on conserving tropical dry forests adjacent to the Olomega RAMSAR wetland. Specific ranger activities included recording bird observations, reducing wildfire risks, preventing poaching, and conducting garbage clean-ups. Rangers also implemented community outreach activities and helped establish community demonstration gardens. Other project outreach activities included a birding and habitat restoration event with surfers and local children during the World Surf League tour, a bird education workshop for two rural communities, and promotion of Global Big Day in collaboration with a new birding club “Observadores de Aves del Oriente”.

Project staff also assessed two land parcels (353 acres) for their conservation value, began to evaluate potential willow flycatcher habitat patches, and identified three sites for conducting species surveys in 2023. Also, in collaboration with a local partner, they developed and launched a small scholarship fund to support Salvadoran college students interested in conducting research on migratory and other priority bird species as part of their senior thesis projects.

Southern Wings Partners: Pacific Flyway Council (\$3,800 allocated in 2022), Arizona, Paso Pacífico, Zoo Boise, Zoological Foundation of El Salvador (FUNZEL), Fundación Enrique Figueroa Lemus, Ministerio de Medio Ambiente y Recursos Naturales (MARN), Sociedad Salvaje, Asociación de Desarrollo Turístico de la Costa Oriental De El Salvador (ADETCO), Compañía Azucarera Salvadoreña (CASSA), Southern Sierra Research Station (SSRS), Mujeres y Naturaleza (MUNAT).

Additional Project: A Sustainable Grazing Network to Protect and Restore Grasslands on Private and Communal Lands in Mexico’s Chihuahuan Desert

Northern Mexico (Chihuahua and Sonora)

Grassland birds are declining more rapidly than any other group of North American birds. The Chihuahuan Desert of northern Mexico is a continentally important wintering area, supporting significant populations of more than 90% of the migratory grassland bird species that breed in western North America. Intensive cropland agriculture is rapidly expanding in the Mexican Chihuahuan Desert, threatening to severely reduce the remaining low-slope native grassland habitat needed by nearly 30 high-priority grassland bird species. To reduce the threat of habitat degradation and conversion, Bird Conservancy of the Rockies (BCR) and partners have created the Sustainable Grazing Network (SGN) to engage private and communal landowners in range improvement and habitat restoration projects on their lands through development of bird-friendly management plans and technical and financial assistance in implementing rotational grazing systems (including needed infrastructure), protection of sensitive habitat, shrub-removal, erosion control, and other restoration techniques. The aim is to secure 15-year collaborative agreements

with each major partnering landowner to protect conservation investments. Keeping ranchers on the land by helping them improve their management and profitability, while simultaneously improving wildlife habitat, is currently the most immediate and cost-effective way to prevent further loss of grasslands in the region. Species benefited include chestnut-collared longspur, Brewer's sparrow, grasshopper sparrow, lark bunting, clay-colored sparrow, Baird's sparrow, scaled quail, Sprague's pipit, loggerhead shrike, Western meadowlark, ferruginous hawk, aplomado falcon, Mexican pronghorn, and prairie dogs.

Status Report: A team of Private Lands Wildlife Biologists coordinated and documented 14 rangeland improvement projects starting on SGN ranches in 2021 and being completed in 2022, which impacted a total of 57,136 acres (including 34,289 acres of Chihuahuan grassland). The team completed an additional six projects on 6 SGN ranches in 2022 that impacted another 39,557 acres, including an additional 14,818 acres of Chihuahuan Desert grassland. The six additional projects included construction of water storage tanks and installation and repairs of solar panels. Additional work included two grassland restoration projects (342 acres) involving mechanical shrub control on two ranches in the Valles Centrales Grassland Priority Conservation Area (GPCA).

Also enrolled four new properties into the SGN in 2022 totaling 70,894 acres: the 24,710-acre El Fresno ranch, the 17,606-acre El Chamizo ranch, the 14,742-acre Carretas ranch, and the 13,865-acre El Vado ranch. El Fresno, Carretas and El Vado are in the Janos GPCA, whereas El Chamizo is located just northeast of Janos in the municipality of Ascension. The landowners signed 15-year agreements to protect their ranches in exchange for technical and financial assistance, to result in enhanced grazing management and grassland restoration. The SGN now encompasses 578,763 acres across 34 properties in northern Mexico.

Southern Wings Partners: Pacific Flyway Council (\$6,000 allocated in 2022), Arizona, Colorado, Minnesota, Montana, New Mexico, Colorado Field Ornithologists, and City of Fort Collins. This project leverages significant additional investment from Mexican landowners, Comisión Nacional de Áreas Naturales Protegidas (CONANP), Carlos Slim Foundation-WWF, Bobolink Foundation, Dixon Water Foundation, Canadian Wildlife Service, U.S. Fish and Wildlife Service (Neotropical Migratory Bird Conservation Act), Bureau of Land Management, U.S. Forest Service International Program.

Adoption
Pacific Flyway Nongame Technical Committee
February 17, 2023

Contact: Edwin Juarez



Brian Holmes, Chair

Pacific Flyway Study Committee
February 17, 2023

A handwritten signature in black ink, appearing to read 'Adam Behney', written in a cursive style.

Adam Behney, Chair

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Informational Note 2 — 2023 Southern Wings Projects

In July 2015, the Pacific Flyway Council (Council) adopted a process to evaluate, endorse, and collaboratively fund, if desired, Southern Wings projects that reflect priorities of Pacific Flyway states (Recommendation #10). Through this process, the Pacific Flyway Nongame Technical Committee (NTC) and Study Committee (SC) submit up to three projects to Council each year. The Southern Wings projects described below are projects that reflect Pacific Flyway priorities. The NTC and SC will continue to work with the Southern Wings Technical Committee to develop new projects or identify existing projects that reflect Pacific Flyway priorities.

In September 2018, Council approved a voluntary assessment process for states to contribute funds to Southern Wings through Council. Voluntary assessments totaled \$2,500 in 2019 (three states), \$23,499 in 2020 (seven states), \$16,500.99 in 2021 (seven states), and \$26,800 (seven states) in 2022. Voluntary assessments in 2023 totaled \$35,400 (eight states) and will be directed toward projects that represent Pacific Flyway priorities. There are 3 selected projects, as well as two additional projects at the request of states providing voluntary assessments.

PROPOSED PROJECTS IDENTIFIED FOR THE PACIFIC FLYWAY

Project 1. The Pacific Flyway Shorebird Survey: Identifying Threats and Conservation Hotspots in Northwest Mexico (\$5,700 allocation in 2023)

Northwest Mexico (Baja California, Baja California Sur, Sonora, Sinaloa, Nayarit)

The Pacific Coast of the Western Hemisphere supports entire populations of neotropical migratory shorebird species during the non-breeding season. A network of coastal and interior wetlands stretching from Alaska to Chile hosts significant aggregations of shorebirds, and is critical for their survival; these wetlands include 12 Western Hemisphere Shorebird Reserve Network sites in northwest Mexico. The Pacific Flyway Shorebird Survey (PFSS) and the Migratory Shorebird Project (MSP) work to fill gaps in Pacific Flyway species population status and trends, assess threats, and identify priority sites for conservation. Mexico is particularly important because globally significant populations of shorebird species spend the winter at numerous sites along the Pacific Coast of that country. Primary species recorded during the annual winter survey in Mexico include: western sandpiper, dunlin, marbled godwit, willet, black-bellied plover, sanderling, greater yellowlegs, dowitcher spp., snowy plover, black-necked stilt, and American avocet. The main conservation concerns for shorebirds in the region are human disturbance and habitat loss or degradation.

The MSP aims to complete standardized annual non-breeding bird surveys at 21 sites across Mexico. These surveys will collect data on the number of birds (shorebirds, waterbirds, and waterfowl), and assess human disturbance, habitat condition, and raptor presence. Bird survey

data will be combined with habitat maps to identify priority overwintering sites for focal species identified in Pacific Flyway State Wildlife Action plans. Project partners will work with Terra Peninsular, a conservation NGO, to develop shorebird-friendly management and conservation strategies for important areas. Surveys will also inform communication and outreach activities with local communities to raise environmental awareness of shorebird conservation. Another action is to collaborate with local hunting organizations to strengthen conservation and management of designated wildlife conservation units through activities such as habitat enhancement, sustainable hunting and improvement of harvest data capture. An example of a collaboration will consist of working with an irrigation district to implement management practices that maintain habitat along irrigation canals to serve as loafing and foraging areas for waterfowl.

The budget need is approximately \$32,000 per year. Funds will help conduct bird surveys (shorebirds, waterbirds and waterfowl) across at least 10 of 21 established sites, continue monitoring coverage at sandy beaches (targeting snowy plover, red knot, willet, and sanderling), conserve key wintering sites, and implement conservation strategies. Collaboration will continue with a local waterfowl hunting group to improve Pacific brant habitat and collect more robust harvest information. Funds will also support work to manage irrigation canals to maintain waterfowl habitat, conduct management activities on private reserves, and engage in education/outreach activities (including outreach to managers of wildlife conservation units). Individual actions can be supported for \$2,500 to \$9,000 each.

Southern Wings Partners: Pacific Flyway Council (\$7,000 in 2022), Arizona, California, Terra Peninsular, Centro de Investigación Científica y de Educación Superior de Ensenada (CICESE), Centro de Investigación en Alimentación y Desarrollo, A.C. (CIAD Guaymas, Sonora), Point Blue Conservation Science, Universidad Nacional Autónoma de México (UNAM), Centro de Investigaciones Biológicas del Noroeste (CIBNOR), Universidad Autónoma de Baja California Sur (UABCS), Grupo Aves del Noroeste De México (GANO) U.S. Forest Service International Program.

Project 2. Restoration of Wetland Hydrology in the Marismas Nacionales of Nayarit, Mexico to benefit migratory waterfowl and shorebirds (\$7,200 allocation in 2023)

Northwest Mexico (Nayarit)

Marismas Nacionales in Nayarit, Mexico is a complex of wetlands that form a mixture of marine waters and 11 rivers, creating a varied mosaic of features such as meanders, river deltas, marshes, freshwater lagoons, estuaries, coastal lagoons, intertidal wetlands, and coastal dunes. It supports the largest mangrove area on the Pacific coast. Marismas Nacionales is one of the most important energy resupply sites for waterfowl on the Mexican portion of the Pacific Flyway, providing high quality foraging and resting sites for 15 migratory species. The area is notable for its concentration of: northern shoveler (130,000), green-winged teal (25,000), northern pintail (12,000), and other waterfowl. It also provides habitat for more than 427,000 wintering shorebirds of 28 species, including American avocet (137,000, which constitutes about 20% of its total population), and western sandpiper (145,000).

These networks of wetlands face numerous threats, including retention and excessive use of water for agriculture and livestock, establishment of shrimp farms, disruption of natural

hydrological flows, and invasive vegetation. All these threats have resulted in drastic mangrove mortality, higher lagoon salinity and reduced habitat for wetland dependent bird species. Restoring the habitat depends, to a great extent, on maintenance of fresh water flows from rivers, streams and springs and on a functional network of natural channels within the mangrove systems. This project focuses on restoring hydrological flows for the recovery and conservation of mangrove ecosystems by rehabilitating approximately 8 miles of the Viejo River channel in the Chugüin-Chuiga tidal sub-basin and 17 miles of tidal channels distributed across three other sub-basins. Restoration measures include cleaning and dredging (e.g., removal of dead mangroves) of natural channels and the Rio Viejo, reestablishment of mangroves through the collection and dispersal of seeds, and removal of invasive species. Monitoring is required to track progress. Habitat conservation work will proceed through maintenance or establishment of Wildlife Conservation Management Units (WCMs), conservation easements, and wetland reserves in collaboration with ejidos (communal landowners), private landowners and land managers.

The budget need is approximately \$10,000. Funding will help train and organize labor brigades (from local communities) to conduct dredging and cleaning activities and mangrove reforestation. These restoration activities will be complemented with bird surveys (waterfowl and shorebirds), water quality assessments, and tracking of restoration progress. Habitat conservation will involve establishing new WCMs and strengthening existing ones. Funding will also assist with community outreach and media campaigns to raise awareness about the benefits of the project and wetland conservation in general. Contributions of \$5,000 to \$10,000 will support implementation of project objectives.

Southern Wings Partners: Pacific Flyway Council (\$10,000 in 2022), ejidos, farmers and ranchers, fisheries cooperatives, Marismas Nacionales Biosphere Reserve, Comisión Nacional de Áreas Naturales Protegidas (CONANP), Comisión Nacional Forestal (CONAFOR), Municipality of Tecuala and Organización Vida Silvestre A.C (OVIS), US Fish and Wildlife Service.

Project 3. Conservation of Neotropical migratory birds in the dry tropical forests of El Salvador: Assessing and addressing threats to overwintering habitat and bird populations (\$3,600 allocation in 2023)

El Salvador

Numerous migratory birds from throughout the Pacific Flyway use Central America's Pacific coast during migration and overwintering periods. Most of this geography was once dominated by seasonally dry tropical forests. However, large-scale conversion to agriculture and pasture has made the dry tropical forest one of the world's most endangered ecosystems, with less than 2% of the original forest remaining intact. Only 5% of remaining dry forest in Mexico and Central America receive some degree of protection. Primary threats to dry tropical forest in El Salvador include habitat conversion from forest to intensive agriculture, and degradation through timber and firewood extraction and wildfires. Approximately 364 bird species have been recorded in the dry tropical forests of El Salvador, including 38 species that are considered Species of Greatest Conservation Need (SGCN) from across 12 western states. Some SGCN species using these dry tropical forests include willow flycatcher, yellow-billed cuckoo, Mississippi kite, peregrine falcon, Swainson's hawk, brown-crested flycatcher, Macgillivray's warbler, summer tanager, and Bell's vireo, among others.

The project aims to protect overwintering bird species and their dry tropical forest habitats in the eastern region of El Salvador. The eastern region has high conservation potential for birds due to its relatively low human population density and high cover of tropical forest. The project will use a three-pronged strategy: 1) restore and protect dry tropical forest habitat, 2) conduct targeted monitoring and research of species of special concern, and 3) build capacity amongst local people, private sector partners, and governments for improved habitat management and awareness of migratory birds.

The budget need is approximately \$23,500. Specific habitat conservation actions to implement include: a) conduct workshops for farmers to conserve willow flycatcher habitat, b) train and deploy rangers at the Chilanguera and Olomega reserves focusing on habitat management, fire prevention, community outreach, and bird monitoring, c) locate and ground-truth potential willow flycatcher habitat patches to prioritize for conservation and species surveys, and d) identify forest parcels suitable for private reserves. Other activities include developing a national bird conservation strategy (in partnership with the Ministry of Environment), building capacity of biology students by supporting small bird research projects, and promoting a culture of appreciation for birds through community education events and birding activities (e.g., Global Big Day, Observadores de Aves de Oriente). Funds would also support deployment of the first Motus station in El Salvador. Contributions of \$5,000 would support implementation of project objectives.

Southern Wings Partners: Pacific Flyway Council (\$3,800 in 2022), Arizona, Paso Pacífico, Zoo Boise, Zoological Foundation of El Salvador (FUNZEL), Fundación Enrique Figueroa Lemus, Ministerio de Medio Ambiente y Recursos Naturales (MARN), Sociedad Salvaje, Asociación de Desarrollo Turístico de la Costa Oriental De El Salvador (ADETCO), Compañía Azucarera Salvadoreña (CASSA), Southern Sierra Research Station (SSRS), Mujeres y Naturaleza (MUNAT).

Additional Project 1. A Sustainable Grazing Network to Protect and Restore Grasslands on Private and Communal Lands in Mexico's Chihuahuan Desert (\$7,000 allocation in 2023)
Northern Mexico

Grassland birds are declining more rapidly than any other group of North American birds. The Chihuahuan Desert of northern Mexico is a continentally important wintering area, supporting significant populations of more than 90% of the migratory grassland bird species that breed in western North America. Intensive cropland agriculture is rapidly expanding in the Mexican Chihuahuan Desert, threatening to severely reduce the remaining low-slope native grassland habitat needed by nearly 30 high-priority grassland bird species. To reduce the threat of habitat degradation and conversion, Bird Conservancy of the Rockies (BCR) and partners have created the Sustainable Grazing Network (SGN) to engage private and ejido (communal) landowners in range improvement and habitat restoration projects on their lands through development of bird-friendly management plans and technical and financial assistance in implementing rotational grazing systems (including needed infrastructure), protection of sensitive habitat, shrub-removal, erosion control, and other restoration techniques. The aim is to secure 15-year collaborative agreements with each major partnering landowner to protect conservation investments. Keeping ranchers on the land by helping them improve their management and profitability, while

simultaneously improving wildlife habitat, is currently the most immediate and cost-effective way to prevent further loss of grasslands in the region. Species benefited include chestnut-collared longspur, Brewer's sparrow, grasshopper sparrow, lark bunting, clay-colored sparrow, Baird's sparrow, scaled quail, Sprague's pipit, loggerhead shrike, Western meadowlark, ferruginous hawk, aplomado falcon, Mexican pronghorn, and prairie dogs.

Bird Conservancy of the Rockies collaborates with other local partners with expertise in landowner outreach, grazing management and grassland birds. Thanks to support from many partners, BCR currently supports three full-time private lands wildlife biologists in northern Mexico who operate all aspects of the SGN program from outreach and landowner relations, to development and implementation of management plans and habitat restoration, to bird monitoring and evaluation. Funding is needed to support delivery of technical assistance and cost-share infrastructure (i.e., fencing, water distribution lines, water storage tanks and troughs, etc.) needed to facilitate rest-rotational grazing plans and improve grassland conditions, as well as pay for diesel and machinery rental for shrub removal (\$125/acre) and sub-soil aeration (\$75/acre). Funding is also needed to construct water tank escape ladders (2 m tall, \$60/each), support capacity building, training and landowner outreach events.

Southern Wings Partners: Pacific Flyway Council (\$6,000 in 2022), Arizona, Colorado, Minnesota, Montana, New Mexico, Colorado Field Ornithologists, and City of Fort Collins. This project leverages significant additional investment from Mexican landowners, Comisión Nacional de Áreas Naturales Protegidas (CONANP), Carlos Slim Foundation-WWF, Bobolink Foundation, Dixon Water Foundation, Canadian Wildlife Service, U.S. Fish and Wildlife Service (Neotropical Migratory Bird Conservation Act), Bureau of Land Management, U.S. Forest Service International Program.

Additional Project 2. Protection of Desert Grasslands Migratory Bird Habitat in the El Tokio Grassland Priority Conservation Area. (\$11,900 allocation in 2023)

Northern Mexico

The desert grasslands, located south of the city of Saltillo (Coahuila) in northern Mexico, are high elevation (6,000 to 7,000 feet) grasslands important to numerous wintering migratory birds as well as threatened resident bird species. More than 250 bird species are found in El Tokio Grassland Priority Conservation Area (GPCA), including significant numbers of wintering long-billed curlews (up to 2,000 individuals have been seen in a single flock). This region is one of the most important wintering areas for mountain plovers and Sprague's pipit. Other species include loggerhead shrike, lark bunting, Brewer's and Baird's sparrow and ferruginous hawk. One of the most significant threats to grassland habitat in El Tokio is overgrazing by cattle and goats. The loss of vegetative cover, in a region with naturally arid soil, has exacerbated drought conditions and is leading to desertification. Erosion and a proliferation of invasive plant species are side effects of overgrazing and contribute to a loss of grassland habitat. Another significant threat is the rapid conversion of the land to agriculture, primarily for potato production.

Pronatura Noreste's (PNE) Chihuahuan Desert Grasslands program goal is to ensure the protection and management of 2,400,000 acres of grassland habitat. American Bird Conservancy (ABC) is working with PNE to help them achieve this goal, and specifically for the improved protection, management, and restoration of grasslands within the El Tokio GPCA. Pronatura Noreste and ABC have supported conservation efforts on more than 140,000 acres of habitat

through the creation of private reserves, ejido reserves, and conservation agreements that restrict cattle ranching and agriculture practices. The project's long-term goal is to directly impact at least 370,000 acres of grasslands through improved grassland management and erosion control. A key part of achieving this goal is to create a habitat corridor that would connect approximately 15 ejidos and ensure that each has at least some percentage of ejido land dedicated to conservation. Specific conservation activities include creation of management plans and grazing recommendations, installation of erosion control systems to help restore grasslands, and installation of water infrastructure and fencing for livestock control.

The budget need is approximately \$70,000. American Bird Conservancy and PNE would like to continue collaborating with ejidos already in the program, as well as expand into additional ejidos. The communities of San José del Alamito and La Esperanza now have a conservation and livestock management plan to guide sustainable grazing practices. Technical support will be provided for their implementation. Also, other actions will include installing livestock ranching infrastructure and erosion control measures. These activities will ensure the conservation of up to 3,800 acres of grasslands. Contributions of \$1,000 to \$5,000 will support implementation of project objectives.

Southern Wings Partners: Pronatura Noreste (PNE), American Bird Conservancy (ABC), ejidos, Oklahoma, South Dakota, Nebraska, Iowa, Texas, Kansas.

Adoption

Contact: Edwin Juarez

Pacific Flyway Nongame Technical Committee
February 17, 2023



Brian Holmes, Chair

Pacific Flyway Study Committee
February 17, 2023



Adam Behney, Chair

PACIFIC FLYWAY COUNCIL

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Informational Note 3 — Harvest Allocation of Peregrine Falcons for Falconry Purposes in the United States West of 100° West Longitude

In March 2009, the Pacific Flyway Council adopted authorizations under the U.S. Fish and Wildlife Service's *Final Environmental Assessment and Management Plan on Take of Migrant Peregrine Falcons from the Wild for Use in Falconry, and Reallocation of Nestling/Fledgling Take*. This allowed for the harvest of up to 116 wild first-year peregrine falcons per year (41 in Alaska, 75 apportioned among states west of 100° west longitude) for use in falconry.

In the 13 years since the harvest has been allowed, nine Pacific Flyway states (excluding Alaska) have:

1. Authorized permits for the harvest of an average of 66 (range 56 to 79) peregrine falcons per year.
2. Removed an average of 25 (range 13 to 38) peregrine falcons from the wild per year.

Two states (Nevada and California) within the Pacific Flyway, and six states within the Central Flyway west of 100° west longitude, currently do not authorize the harvest of peregrine falcons. During the 2022 peregrine falcon harvest season the Pacific Flyway states (excluding Alaska) authorized the take of 67 individuals, with 22 peregrine falcons taken for falconry. Alaska, which has their own allocation, has authorized the annual harvest of 41 peregrine falcons most years, and harvests an average of just over one individual per year.

Pacific Flyway states (excluding Alaska) have not reached the overall harvest limit of 75 peregrine falcons. Thus, the allocation of permits across the Pacific Flyway, and states within the Central Flyway west of 100° west longitude, has not been necessary. The Pacific Flyway Nongame Technical Committee, through coordination with the Central Flyway Nongame Technical Committee, will develop an allocation process when peregrine falcon harvest begins to approach the authorized limit.

Adoption

Pacific Flyway Nongame Technical Committee
February 17, 2023

Contact: Grant Frost

Brian Holmes, Chair

PACIFIC FLYWAY COUNCIL

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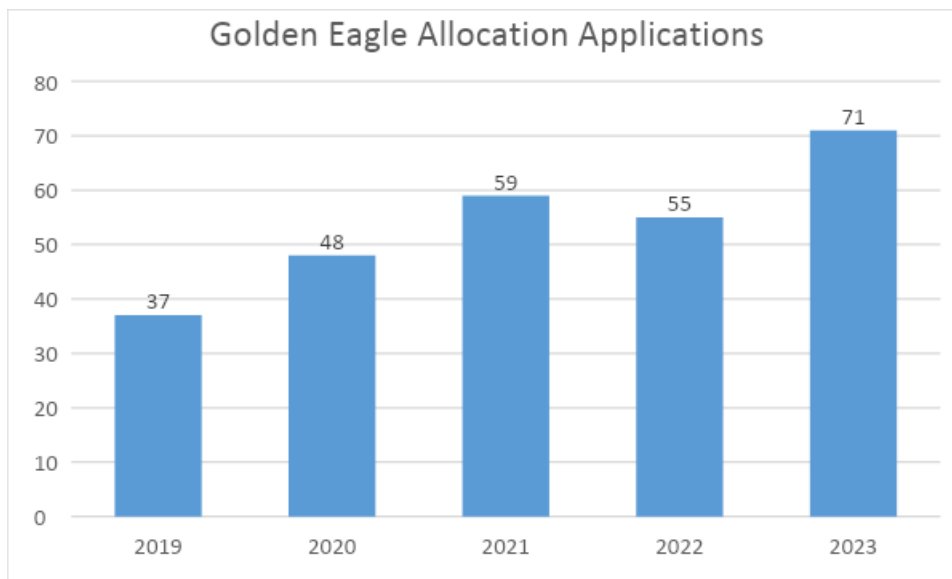
Informational Note 4 — Golden Eagle Allocation Procedure

In 2018 the U.S. Fish and Wildlife Service requested that the four flyway councils establish and manage an allocation procedure for placing golden eagles (hereafter eagles) with falconers. These eagles could come from two sources: wild-caught eagles that address depredation issues and rehabilitated eagles.

An important component of the procedure was to develop an equitable method to allocate and transfer eagles to qualified falconers. Wildlife agencies with jurisdiction submit the names of qualified falconers to one designated state wildlife agency (DSWA). The DSWA conducts a random draw of the pooled applicants, and then informs the wildlife agencies with jurisdiction the drawing order of qualified applicants.

Utah served as the first DSWA for three years, and Wyoming is the current DSWA. These two states have also been where all of the wild eagles have been caught (Utah = 4, Wyoming = 11). Of those 15 eagles, 10 have gone to falconers in the Pacific Flyway states (Washington = 3; Utah and Arizona = 2 each; New Mexico, Colorado and Wyoming = 1 each). To date, no eagles have been allocated through the rehabilitation option.

The number of applicants has steadily increased, from 37 in 2019 to 71 in 2023. In 2023, applications were received from qualified falconers in 25 states.



During the five years of the allocation process, 270 falconers have applied with 162 applying from Pacific Flyway states. Many falconers have put in for the drawing multiple, if not all five, years.

Adoption

Pacific Flyway Nongame Technical Committee
February 17, 2023

Contact: Grant Frost



Brian Holmes, Chair

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Informational Note 5 — Funding to Support Double-crested Cormorant Surveys

In 2024, Pacific Flyway states and partners will conduct the final survey that was anticipated to occur under the survey strategy for Double-crested Cormorant (DCCO) implemented in 2014 (Pacific Flyway Council 2013). The monitoring program was developed to track the abundance of DCCO in the Western Population, primarily in response to substantive management to reduce predation on salmonids in the vicinity of a very large nesting colony of cormorants in the Columbia River Estuary (CRE).

Management of DCCO has proven to be a challenge at the CRE and is expected to continue, as is associated monitoring. In addition, new federal regulation will authorize states and tribes to take DCCO and to issue take permits to other entities for that purpose. Although not all permitted take requires monitoring, the need for monitoring exists where take is substantial. In the context of facilitating cross-flyway discussions to develop survey strategies for all flyways, the Service indicated that “in the absence of updated population estimates, uncertainty in population size will increase, and this may lead the Service to reduce allowable annual take in the future to ensure the conservation of cormorants” (U.S. Fish and Wildlife Service 2022: page 1).

Except for the initial survey in 2014, identifying and securing funds to conduct DCCO surveys has been a challenge since this initiative began. Given ongoing management needs in the CRE and new opportunities and responsibilities to manage take by states and tribes, it will be important to establish a reliable source of funding to support surveys. In the final report issued by the Service on recommendations for the development of national monitoring strategies, the Service indicated that “once a flyway council selects a final [survey] design, the Service, states, and tribes will work within their own agencies to determine possible funding mechanisms” (USFWS 2022: page 3).

The Pacific Flyway survey strategy may be revised based on input derived through the national survey strategy development process. The level of survey activity will likely be comparable to that of the previous survey strategy, although the frequency of surveys may be reduced from every third year to once every five years. Despite the slight uncertainty in survey costs, Pacific Flyway member states will need to assess opportunities to fund DCCO monitoring. Potential options to cover survey costs include coordination with state fish management programs to assess funding availability or increasing flyway assessments. Whatever the mechanisms to fund the surveys, it will be important to understand the availability of funds.

We bring this to your attention at this time because although the next survey will not occur until 2024, some states may need substantial advance notice to allocate funds to that initiative.

References

Pacific Flyway Council. 2013. A monitoring strategy for the Western Population of Double-crested Cormorants within the Pacific Flyway.

U.S. Fish and Wildlife Service. 2022. Recommendations for implementing a monitoring strategy for Double-crested Cormorant subpopulations in the United States.

Adoption

Pacific Flyway Nongame Technical Committee
February 17, 2023

Contact: Joe Buchanan



Brian Holmes, Chair

PACIFIC FLYWAY COUNCIL

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Informational Note 6 — Pacific Flyway Diversity, Equity, and Inclusion (DEI) Ad Hoc Committee Action Plan

At the August 2022 meeting, the Pacific Flyway Council supported a recommendation to create an ad hoc Diversity, Equity, and Inclusion (DEI) Committee and asked that the committee provide Council a plan describing actions it proposes to take in 2023. Members of Council, the Study Committee, and the Nongame Technical Committee were invited to join the committee via email in October 2022. Members who responded to that initial invite were then invited to two Zoom meetings in fall of 2022, where a Committee Chair (Emily VanWyk), was selected and contents of an action plan were discussed. Below is the action plan the ad hoc committee has developed.

We emphasize that the committee agrees that we don't yet know what is needed as it pertains to the Flyway. Hence, we propose to focus on learning about what resources, partners, and needs exist in 2023 as a means of educating ourselves. This plan presents a slate of actions that will begin in 2023 and will be ongoing: successful engagement on this effort will build from actions initiated in 2023. Progress on each action item will be reported to Council in August 2023.

- 1) Engage with other DEI committees to discuss and share common challenges, solutions, resources, and blind spots. Examples of possible committees to reach out to include those within the Association of Fish and Wildlife Agencies, North American Bird Conservation Initiative, The Wildlife Society, or Partners in Flight.

Step 1: Develop a list of what groups currently exist, including state resources such as diversity officers

Step 2: Assess relevancy and overlap of each entity with the Pacific Flyway

Step 3: Contact relevant entities to learn about their:

1. Mission and Goals
2. Membership
3. Actions or initiatives
4. Challenges/barriers

- 2) Explore opportunities with new and non-traditional partners that have a vested interest in migratory birds managed by the Pacific Flyway

Step 1: Investigate the history of participation in the Pacific Flyway Council process and membership.

1. Canadian provinces and Mexican states are identified as members of the Pacific Flyway Council within Article I of the bylaws of the Council,

but are either not currently engaged in the process or minimally engaged.

2. Investigate to what extent Mexico and Canada (including state, provincial, and federal representation) have been involved in the Pacific Flyway process historically, barriers to involvement, potential interest in engagement, and involvement with other flyways.

Step 2: Brainstorm a list of potential partners with which the Pacific Flyway is not currently engaged. This could include agencies, tribal organizations, and non-government groups. For each identified potential partner, identify specific ways they could better be involved and if/how it could benefit the flyway process.

3. Evaluate opportunities identified by the WAFWA DEI assessment.

Step 1: Review findings of the survey when they become available

Step 2: Identify success, actions, or opportunities highlighted in the results that could potentially benefit or inform the flyway process

Step 3: Report findings and potential recommendations for next steps to Council in August 2023.

4. Additional Actions for consideration:

Increase inclusion and interactions at the Thursday evening Ducks Unlimited banquets to strengthen working relationship across groups and people:

Evaluate benefits of recent non-hotel banquet venues (ski facility in Montana, whale watching boat in Alaska). Develop a list of potential activities that will foster conversations across the PFC bodies as well as engage new partners (e.g., special topic webinars, birding, or other pertinent field trip events).

The ad hoc DEI committee will continue to investigate additional opportunities to engage in existing DEI efforts and to identify gaps in the partnerships within the flyway process and continue to build on this action plan.

Adoption

Pacific Flyway Nongame Technical Committee
February 17, 2023

Contact: Emily VanWyk



Brian Holmes, Chair

SUBCOMMITTEE REPORTS

Banding Subcommittee

Brandon Reishus, Oregon Department of Fish and Wildlife

The banding subcommittee discussed three issues during its meeting.

First, Flyway states and partners were asked if they were aware of any planned changes in effort for summer, preseason mallard and mourning dove banding. No members indicated they were aware of any reductions in effort this coming year, though several noted recent or planned expansions in effort.

The subcommittee also discussed a letter to the BBL which the Central Flyway Waterfowl Technical Committee will be forwarding to their Council regarding a request for a moratorium on outside entities receiving banding data related to auxiliary marked birds. This would ensure that entities responsible for the marking projects can publish any findings related to the fate of those birds prior to entities who are not affiliated with the work. Although the subcommittee is concerned about such practices, no motion to develop a similar letter was offered.

Last, the subcommittee discussed progress on revision of the species codes related to Canada and cackling geese. The BBL intends to have the updates completed by this upcoming summer banding season; however, retroactive changes to data will likely need to be done at the request of the bander responsible for the bandings.

Recommendations

The subcommittee did not propose any recommendations.

Rocky Mountain Population Trumpeter Swan Subcommittee

Russell Woolstenhulme, Nevada Department of Wildlife

Population Status

Dave Olson (U.S. Fish and Wildlife Service) presented an overview of the population status and results from the 2022 Trumpeter Swan Survey of the Rocky Mountain Population, U.S. Breeding Segment Report. Observers counted 940 swans (726 white birds and 214 cygnets) in the U.S. Breeding Segment of the Rocky Mountain Population of trumpeter swans during fall of 2021, which was a 1.8% increase from last year's count (923). The number of white birds in the Greater Yellowstone Area (473) was an increase of 8.2% from last year's count of 437. The total number of cygnets decreased 8.8%, from 91 in 2021 to 83 in 2022. Cygnet counts decreased precipitously (74.1%) in Montana from 27 in 2021 to 7 in 2022. Wyoming cygnet production decreased by 17.0% while it increased 190.9% for Idaho. Twenty-seven white birds were observed at the Summer Lake Wildlife Management Area (WMA) and vicinity, which was a decrease of 10.0% from last year's count of 30, and 2 white birds were observed at Malheur National Wildlife Refuge (NWR). Ruby Lake NWR, Nevada observed no white birds.

Precipitation throughout most of the Greater Yellowstone Area was 40% - 80% of normal during winter 2021 - 2022. During the summer months, temperatures were within the normal average while precipitation was 75 - 130% of normal, especially during June - August. Palmer Drought Indices for areas within the Greater Yellowstone area suggested wetter conditions for 2022 as compared to the area for 2021.

Harvest Information

Results from the 2022-2023 swan hunting seasons are listed below by state. A number of feather samples were collected from harvested trumpeter swans in all states reporting harvest in an effort to determine through isotope analysis summer origins for these birds.

Idaho	No report available
Montana	Preliminary - 163 bill cards received to date, indicating approximately 19 potential trumpeter swans harvested. Final harvest estimates and compliance rates will be provided at the August meeting.
Nevada	Preliminary – 121 Tundra swans/ 1 Trumpeter harvested. Final numbers to be released at a later date.
Utah	885 harvested / 22 trumpeter swans; the season was closed early due to meeting and subsequently exceeding the trumpeter swan quota.

Utah will present to their Wildlife Commission, for their consideration, the option of returning to their previous hunt boundaries (pre-2019) to remove areas of higher trumpeter swan harvest.

Management Activity

In 2022, 24 captive-reared trumpeter swans were (or soon will be) released at the following restoration areas:

Teton Basin, Idaho	6 cygnets
Middle Madison, Montana	4 cygnets, 2 yearlings to be put out spring 2023
Oregon	2 yearlings (from 2021 allocation), 4 yearlings spring of 2023 (from 2022 allocation)
Yellowstone National Park	6 cygnets

Research Activity

Todd Sanders, Pacific Flyway Representative, provided an update on the trumpeter swan movement research and feather isotope analysis being conducted by Todd Katzner (U.S. Geological Service). This project is being finalized this year with a request that all outstanding feather samples be submitted as soon as possible.

Between 2019 and 2022, fifty-five trumpeter swans from five locations within the Rocky Mountain Trumpeter Swan population were radio marked with GSM transmitters. Over 375,000 locations were recorded. Analysis of swan movement data through December of 2022 from GSM marked swans will be analyzed during the next few months with a draft manuscript expected by December of 2023.

Nicole Ibrahim, Ph.D. candidate at the University of Maryland, is developing a stable isotope transfer function from known origin museum samples. This is a necessary pre-step to assign origin of harvest to the sample of trumpeter swans harvested in the Pacific Flyway during the 2020, 2021, and 2022 hunting seasons. Nicole is working with Dave Nelson, Director of the Stable Isotope Laboratory at the University of Maryland, under funding from the University of Maryland, which increases the leverage of funding by our project collaborators and is providing critical information for our collaborative study. Nicole Ibrahim, Dave Nelson, and Todd Katzner have the lead on drafting the manuscript on origin of harvested trumpeter swans in the Pacific Flyway once Nicole finishes her initial work. The draft manuscript should be available for review in about a year.

A demographic assessment of population stressors could be conducted with the movement and origin of harvest data but would depend on our ability to determine the population age structure in at least 3 cohorts (juvenile, subadult, and adult). Pentosidine in skin collagen, which decays over time, offers hope to identify age structure in our samples and the population, but a separate study is needed to develop the relationship between age and skin pentosidine levels in trumpeter swans. Collaborators could consider funding sources if a demographic assessment of the RMP population of trumpeter swans is a priority.

Oregon has been conducting a GSM transmitter project investigating trumpeter swan movement patterns from their RMP population birds since 2019, six GSM transmitters were deployed prior to 2023. Bird movements indicate the marked swans migrated into the Canada population. The Trumpeter Swan Society received funding from the Oregon Conservation and Recreation Fund and acquired an additional 13 transmitters to expand and continue the study. Twelve of those transmitters were deployed during February of 2023. Five of those transmitters were deployed at Summer Lake Wildlife Area and seven from Malheur National Wildlife Refuge.

Recommendations

The subcommittee adopted one recommendation:

- The subcommittee recommends Pacific Flyway Council approval of the 2023 allocation of captive-reared trumpeter swans to approved restoration sites in this priority order:
 1. Summer Lake, Oregon
 2. Middle Madison, Montana
 3. Yellowstone National Park
 4. Teton Basin, Idaho
 5. Mud Lake, Idaho
 6. Big Sandy, Wyoming*

The Subcommittee recommended that state leads meet by conference call in early July to determine the specific number of swans to allocate to each release site. The specific number of swans available for allocation to each restoration site will depend upon hatching success during spring 2023 (not known until early July) and genetic origin of swans. In 2023, it is anticipated swans will be available from the Wyoming Wetlands Society (WWS). All swans from the WWS are of Rocky Mountain Population (RMP) origin, except for one pair of mixed RMP/Pacific Coast Population (PCP) origins. As stated in the Pacific Flyway Management Plan for the Rocky Mountain Population of Trumpeter Swans (Plan), these mixed origin birds can only go to Oregon. Other potential sources of PCP cygnets for Oregon's 2023 allocation may come from The Trumpeter Swan Society's central Oregon flock.

* The subcommittee included in their recommendation to Council that Big Sandy, Wyoming, be added to the list of approved trumpeter swan restoration sites.

Pacific Coast Population Trumpeter Swan Subcommittee

Joseph Sands, USFWS, Pacific Region

Population Status

The most recent status estimate was provided to Council in August 2022.

Harvest Information

The Pacific Coast Population of trumpeter swans is not subject to sport or subsistence harvest.

Management Activity

Given the cancelation of the North American Trumpeter Swan Survey (NATSS) in 2020 (the current assessment method for this population), the subcommittee agreed the best alternative monitoring method to evaluate the status of this population would be using data from the annual USFWS Waterfowl Breeding Population and Habitat Survey (WBPHS) in Alaska (Strata 1, 2, 3, 4, 6, and 7). Because the WBPHS is already conducted annually for multiple species of waterfowl, there would be no additional cost to collect this monitoring data for trumpeter swans, and the WBPHS data has historically correlated well with the NATSS data and includes an annual measure of precision. However, the WBPHS covers a smaller survey area in Alaska, does not include birds outside Alaska (about 10% of the population), and recent growth rates from the WBPHS have diverged from the NATSS.

This change in monitoring metric necessitates a change to the management plan goal of allowing “the population to fluctuate naturally, but at not less than 25,000 swans as measured in late summer by the 5-year periodic PCP Breeding Trumpeter Swan Survey.” The subcommittee held a half-day meeting in April 2022 to discuss any potential revisions to the management plan, as well as a plan for moving forward with appropriate changes. This discussion was continued at this meeting, and it was decided that the most appropriate path forward was to provide a status review for this population. A status review is most appropriate for populations that are generally not exposed to harvest or have few identified threats to their status; thus, status reviews do not specify a desired future condition via goals and objectives, establish priority of management actions and responsibility for them, or include harvest strategies.

Other management activities discussed are the winter surveys conducted in Oregon and Washington. Washington’s winter survey produced a count of 16,389 swans of which 12,461 (76%) were trumpeters. Preliminary data from Oregon’s December 2022 survey in Northwest Oregon indicate the highest ever count of swans, 13,500 swans, but methodology does not allow differentiation between trumpeter and tundra swans.

Research Activity

No research activities reported.

Recommendations

The subcommittee recommended moving forward with a status review for Pacific Population trumpeter swans.

White Goose Subcommittee

Kyle Spragens, Washington Department of Fish and Wildlife

Population Status

The management plans for Western Arctic and Wrangel Island populations of lesser snow geese recommend spring or breeding area surveys to assess population status; however, these surveys have either been discontinued or are no longer feasible. However, annual counts of snow geese during winter in parts of California, Oregon, and Washington are available to inform interim population objectives.

Harvest Information

Nothing new to report as late season segments are still occurring in Pacific Flyway states.

Management Activity

Winter surveys have been conducted in California, reporting a total white goose count of 1,093,828 that includes 142,127 Ross's geese based on ground-based composition surveys. Winter white bird surveys have been conducted by the Oregon Department of Fish and Wildlife and results are being compiled and will be distributed. The Washington Department of Fish and Wildlife and the Canadian Wildlife Service have a scheduled flight within the next week and analysis of the photo-based survey will be distributed.

Research Activity

None to report.

Recommendations

The subcommittee adopted 1 recommendation:

- The subcommittee recommends adopting interim population objectives for Western Arctic and Wrangel Island populations of lesser snow geese to inform harvest management decisions until alternative monitoring programs and population objectives have been identified and implemented.

Double-crested Cormorant Subcommittee

Michelle McDowell, U.S. Fish and Wildlife Service
Allison Begley, Montana
Emily VanWyk, Oregon
Neil Clipperton, California
Joe Buchanan, Washington

Double-crested Cormorant Monitoring and Future Planning

Survey Goal

The goal of the Pacific Flyway Council's Double-crested Cormorant Monitoring Strategy (Strategy) is to establish a coordinated, long-term, flyway-level monitoring effort to estimate the breeding population size, trend, and distribution of the Western Population. This information is fundamental to support development of effective management recommendations, and for guiding and assessing management actions pertaining to double-crested cormorant (cormorant) depredation on fish resources.

Survey Summary

The Strategy recommended monitoring every 3 years, starting in 2014, so the described monitoring schedule would include surveys in 2014, 2017, 2020, and 2023. However, from the beginning, surveys were conducted annually through 2019. This was a result of the U.S. Army Corps of Engineers (Corps) monitoring the population in conjunction with its cormorant control activities on East Sand Island in the Columbia River Estuary (USACE 2015). Corps funding was used to survey sites where other PFC partners would not have otherwise collected data in 2015, 2016, 2018 and 2019. The Corps is no longer required to monitor the population, so the Flyway has resumed its originally intended schedule. As a result of the COVID-19 pandemic, the 2020 survey was postponed to 2021. Because the population had been monitored more frequently than necessary in prior years, this delay did not result in any loss of power to detect change.

In 2021, The Pacific Flyway Nongame Technical Committee (NTC) coordinated collection of colony data by state and federal agencies and submitted survey data to the U.S. Fish and Wildlife Service (Service). Surveys were completed, at minimum once per site, to estimate peak number of breeding Double-crested Cormorants, through nest and adult counts, March through August. The Service and its contractors, PFC partners, and Corps contractors monitored colony sites or colony complexes (i.e., collection of closely associated colonies) in 2021. The Service assembled and processed all 2021 colony information and derived a 2021 estimate of the Western Population as described in the Strategy (49,698 breeding individuals, 95% CI 34,264-65,132).

The strength in using the Strategy was the ability to detect change from 2014 forward with an agreed upon level of statistical power. Monitoring methods were standardized across the Western Population for the first time, and a sampling approach was used that does not require monitoring all colonies. Moreover, coordination of the overall effort was accomplished through the NTC, with NTC members subsequently coordinating within their agencies and with partners in their states.

Future Monitoring Plans

The Strategy states that implementation will occur every third year and thereafter for at least 10 years (Pacific Flyway Council 2013). The full monitoring strategy was completed in 2021,

despite COVID-19 restrictions in some areas. According to the Strategy, the next survey would be conducted in 2023 but because of postponement of the survey originally scheduled for 2020, the next survey will be conducted in 2024.

The subcommittee is working with the Service (Branch of Assessment and Decision Support) to update the Strategy. New technology is now available to address bias and power concerns. The Service is interested in using the monitoring data to inform their permitting decisions associated with the 2020 National level EIS, Expanding Management of Conflicts Associated with Double-crested Cormorants. The updated Strategy will be used for 2024 implementation.

Next Steps and Decisions for Updating the Monitoring Strategy

- Error check database
- Review final database, by states
- Add any records for 2022
- Identify desired precision
- Decide temporal sampling regime (every 3 or 5 years)
- Use packages in R for optimal sample selection and estimation of abundance
- Use historical counts to define strata and place colonies within strata for sampling
- Use historical data to estimate transition probabilities between strata for use in generating uncertainty
- Identify the colonies to sample in 2024
- Identify costs

References

Pacific Flyway Council. 2012. A framework for the management of Double-crested Cormorant depredation on fish resources in the Pacific Flyway. Pacific Flyway Council, U.S. Fish and Wildlife Service, Portland, Oregon.

Pacific Flyway Council. 2013. A monitoring strategy for the Western Population of Double-crested Cormorants within the Pacific Flyway. Pacific Flyway Council, U.S. Fish and Wildlife Service, Portland, Oregon.

OFF-CYCLE PRODUCTS

Council-approved Letter Regarding Permits for Incidental Take of Eagles and Eagle Nests, proposed rule.

The Pacific Flyway Council approved the following letter and voted off-cycle to send the letter in November 2022.



November 28, 2022

Ms. Martha Williams
Director, U.S. Fish and Wildlife Service

Public Comments Processing
Attn: FWS–HQ–MB–2020–0023
U.S. Fish and Wildlife Service
MS: PRB/3W
5275 Leesburg Pike
Falls Church, VA 22041–3803.

Subject: Permits for Incidental Take of Eagles and Eagle Nests, proposed rule. Docket FWS–HQ–MB–2020–0023

Dear Director Williams:

The Pacific Flyway Council (Council) is comprised of the fish and wildlife agencies of 12 western states responsible for science-based management, conservation, and regulation of migratory birds in western North America. We work in association with federal agencies and other cooperators in the United States, Canada, and Mexico to set migratory bird policy and regulations and contribute to migratory bird management and research throughout western North America.

Bald eagles and golden eagles are important and highly symbolic migratory bird species and as such, Council has strong interest in laws that protect them, including the Bald and Golden Eagle Protection Act. Council is providing comments in response to the proposed rule and draft environmental assessment published in the Federal Register on September 30, 2022. This proposed rule includes approaches intended to improve the eagle incidental take permitting program. This is meant to improve the conservation of both bald eagles and golden eagles by providing incentives for more projects to be in compliance with the Bald and Golden Eagle Protection Act and implement mitigation measures.

While the Pacific Flyway Council appreciates, and generally supports, the intent of simplifying and streamlining the U.S. Fish and Wildlife Service’s (USFWS) incidental take permitting

process for eagles and eagle nests, the following comments must be addressed to ensure the Local Area Populations (LAP) will meet the “stable or increasing” standard of the Bald and Golden Eagle Protection Act (BGEPA). Failure to adequately address the comments included would prohibit the Council’s ability to support the advancement of the proposed rule. These specific comments are:

1) Mitigation. We have two concerns regarding mitigation measures described in the proposed rule. First, mitigation measures aimed at the Eagle Management Unit (EMU) may have little benefit for the Local Area Population (LAP) primarily, or the state, which is the spatial boundary of populations that are the management responsibility of each state. Effective mitigation measures should be aimed at helping the LAP where the population has been impacted, and if this is impractical or opportunities to apply mitigation efforts within the LAP are exhausted, it would then be appropriate to scale up to applying mitigation efforts at either statewide or regional U.S. Fish and Wildlife Service (Service) areas before moving to the EMU. Mitigation should be applied within states that have concerns about golden eagles (e.g., where they are species of greatest conservation need).

Second, mitigation measures that are being used, such as retrofitting power poles, may not be the most effective action in some parts of the Pacific Flyway and when feasible, should be tailored to each LAP or state to make them as effective as possible. Council encourages the development of additional mitigation measures that would meet this need.

2) Buffers. Prescribed buffers are challenging because they don’t allow flexibility for site-specific situations. Council suggests deviations from these buffer distances could be allowed for through a process of getting formal concurrence of such deviations from states or local Service species leads.

For all active and inactive bald eagle nests there is a 330-foot buffer. Brief disturbance activities could be allowed within that buffer for inactive nests. If the disturbance is minor and the bald eagle nest is known to be inactive, we think an allowance to engage in the activity should be made given the lack of harm.

For golden eagles, the 2-mile buffer for wind energy projects is appropriate for breeding adults and post-fledgling juveniles. However, the nonbreeding adult, sub-adult and post-dispersal juvenile golden eagle portions of the population are not protected by this buffer, and strategies to protect these groups, at any time of year, are also needed.

In 22.280 Permits for disturbance take of eagles, the 660-foot and 330-foot buffers are very prescriptive and may prove to be overprotective or under protective depending on the circumstance. For example, bald eagle nests built on an active golf course may need a zero-foot buffer for ground-based activities (e.g., habituation may have occurred). Alternately, areas with no activity around bald eagle nests may need more than 660 feet to remain productive (e.g., locations with less likelihood of habituation). Sections (b) (1-8) would be greatly improved if language was added for each, similar to (8) that accounted for larger distances for pairs exhibiting less tolerance and smaller distances for pairs exhibiting greater tolerances.

3) State involvement in permitting process. Council is concerned that the new process for issuing general permits will provide little opportunity for input or consultation from member

states, and that permits may be issued without notification. There should be a procedure in place that would 1) provide earliest possible notification of proponents' scoping, 2) consult with state wildlife agencies that have the desire and interest to be involved and obtain concurrence that the proposed site qualifies for a general permit, and 3) provide notification of those projects that receive general permits.

4) State exemptions. Council asks that the Service implement a broad-based exemption for state wildlife agencies conducting habitat manipulations, restoration, or other physical improvements that have the goal of improving wildlife habitat, but that may result in incidental take of bald or golden eagles and their nests. Examples of this type of work may include reverting habitat to earlier successional stages, thinning dense forests, and creating fuel breaks to reduce wildfire risk. Such take must demonstrate reasonable efforts to minimize adverse impacts to bald and golden eagles to the maximum extent practicable and must be conducted in accordance with local and state ordinances and laws.

5) Cumulative impacts. Council is concerned about cumulative impacts, measured in eagle mortalities, of multiple wind energy projects that occur in the same general area. Although an individual project may not exceed the thresholds, the combination of projects could have a major impact on a LAP. The reduction or elimination of pre- and post-project surveying will make it more difficult to measure these impacts. In landscapes where multiple wind energy projects are contiguous, we recommend that the triggers for adaptive management (three mortalities) or revocation of the general permit (four mortalities) should be based on the combination of contiguous projects and not based on each individual project.

6) Golden eagle special considerations. In all aspects of general and specific permits, the golden eagle should be managed more cautiously and conservatively. Although the differences between bald eagle and golden eagle biology and status are dealt with in the new rule, the golden eagle population trajectory is of serious interest for states where they are a species of greatest conservation need. There is concern that the number of projects in place and proposed is more harmful to golden eagles than bald eagles. The general permit, which involves limited oversight of compliance, effectiveness, and adjustments of management practices in response to impacts (adaptive management), therefore poses a potential risk to the golden eagle.

7) Monitoring and reporting. One major change proposed in this rule is the elimination of pre- and post-construction surveys and monitoring at project sites. If pre- and post-construction monitoring by third parties is no longer required, we ask for clarification on how we can ensure accurate assessments of impacts under the new system.

We are concerned about this because the surveys provide a way to avoid poorly sited projects and to implement fatality minimization measures. For example, a specific pre-construction survey revealed that an area had significant raptor migration and fall eagle abundance, and a post-construction survey at a different site showed there was exceedingly high bat mortality rates that triggered minimization measures. These conservation opportunities for eagles and other species would be lost if pre- and post-construction requirements were eliminated.

The proposed rule change would prohibit general permits after four eagles were found/taken in the project area. However, the Service would be relying on the permittee to comply with these changes honestly and accurately without third-party monitoring and reporting. Although the new

fee system is intended to provide staff that would conduct random and targeted audits to ensure compliance, it is unclear how this would deal with day-to-day monitoring and compliance. Council would like to see pre- and post-construction surveys remain as a minimum standard and permittee responsibility, with up to five years post-construction due to inter-annual variability in eagle mortalities.

8) Adaptive management. We think the use of adaptive management, as proposed, will be problematic. Without sideboards (e.g., management structure) identified in advance, adaptive management seems unlikely to result in effective change. Council suggests this could be addressed by 1) creating a framework for adaptive management that would be sufficient for addressing various levels and types of impacts rather than leaving this to the discretion of the regulated entity, and 2) outlining how the Service will know if adaptive management was or was not effective, and what the next steps would be if it was not.

9. Occurrence data. How do either of the permits (general or specific) address winter aggregations of eagles (of either species), pathways used during migration or other movements, communal roosts, or foraging areas? Such areas may or may not be associated with breeding sites and evaluating risk using density or distance as proposed may be insufficient. We think the use of eBird data across the eagle species range is problematic. Western states often have large expanses of eagle habitat that are remote and difficult to access, and where “birding coverage” is minimal to non-existent. In addition, state wildlife agency employees, seasonal personnel, and the public are often discouraged from publicly documenting eagle nesting or breeding season sightings to avoid drawing additional recreational pressures to nesting territories. As a result, the eBird generated abundance maps depicting eligibility for general permits may be significantly different from the state wildlife agency knowledge of eagle species abundance and distribution. Council recommends that the Service provides state wildlife agencies opportunity to review general permit eligibility maps, prior to publication, to ensure there is agreement that areas included for general permit eligibility adequately protect eagles in the respective states.

10: Illegal shooting. Council suggests creating a decision tree for dead eagles found under power lines for utility companies to use. This would provide utilities a standard protocol for determining if a bird should be necropsied, scanned for lead, or reported to law enforcement.

11: Clarification of activities qualifying for a general permit. It would be helpful to further clarify what activities would qualify for a general permit. For example, in what instances, if any, would construction projects (roads, bridges), surface mining, timber harvest, and agriculture qualify for a general permit?

Sincerely,

Ryan Scott, Chair
Pacific Flyway Council